IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

1.   (Currently Amended) An encoding apparatus, comprising:

a first encoding unit adapted to encode inputted data;

an interleaving unit adapted to interleave the inputted data; and

a second encoding unit adapted to encode an output of said interleaving ~~means~~ unit,

wherein said encoding apparatus executes a first encoding algorithm using said first encoding unit,

wherein said encoding apparatus executes a second encoding algorithm using said first encoding unit, said interleaving unit and said second encoding unit, and

wherein said encoding apparatus ~~operates~~ shares said first ~~and said second encoding units in parallel in order to execute~~ encoding unit when said encoding apparatus executes the first and second encoding algorithms in parallel.

2.-4.   (Canceled)

5.   (Previously Presented) An encoding apparatus according to claim 1, wherein the first encoding algorithm is adapted to use convolutional coding, and the second encoding algorithm is adapted to use turbo coding.

6.   (Currently Amended) An encoding apparatus according to claim 1, wherein the second encoding algorithm is adapted to use [[a]] turbo coding.

7.   (Previously Presented) An encoding apparatus according to claim 1, wherein the first encoding algorithm is adapted to use non-recursive convolutional encoding, and the second encoding algorithm is adapted to use recursive convolutional encoding.

8.   (Previously Presented) An encoding apparatus according to claim 1, wherein a constraint length of encoded data encoded by the first encoding algorithm is different from a constraint length of encoded data encoded by the second encoding algorithm.

9.   (Currently Amended) An encoding apparatus according to claim 1, further comprising:

a selecting unit adapted to select the first or second encoding algorithm in accordance with a type of inputted data.

10.   (Currently Amended) An encoding apparatus according to claim 1, further comprising:

a radio transmitting unit adapted to transmit encoded data encoded by the first or second encoding algorithm.

11.-20. (Canceled)

21.   (Currently Amended) A decoding apparatus, comprising:

a first decoding unit adapted to decode inputted data;

a first interleaving unit adapted to interleave an output of said first decoding unit;

a second decoding unit adapted to decode an output of said first interleaving unit; and

a second interleaving unit adapted to interleave an output of said second decoding unit,

wherein said decoding apparatus executes a first decoding algorithm using said first decoding unit,

wherein said decoding apparatus executes a second decoding algorithm using said first and second decoding units and said first and second interleaving units, and

wherein said decoding apparatus ~~operates~~ shares said first ~~and second decoding units in parallel in order to execute~~ decoding unit when said decoding apparatus executes the first and second decoding algorithms in parallel.

22.-24. (Canceled)

25.   (Previously Presented) A decoding apparatus according to claim 21, wherein the first decoding algorithm is adapted to use soft output decoding, and the second decoding algorithm is adapted to use turbo decoding.

26. (Previously Presented) A decoding apparatus according to claim 21, wherein the second decoding algorithm is adapted to use turbo decoding.

27. (Previously Presented) A decoding apparatus according to claim 21, wherein said first decoding unit normalizes a state metric value.

28. (Currently Amended) A decoding apparatus according to claim 21, wherein a constraint length of encoded data which will be decoded by the first ~~error correction~~ decoding algorithm is different from a constraint length of encoded data which will be decoded by the second decoding algorithm.

29. (Currently Amended) A decoding apparatus according to claim 21, further comprising:

a selecting unit adapted to select the first or second decoding algorithm in accordance with a type of inputted data.

30. (Currently Amended) A decoding apparatus according to claim 21, further comprising:

a radio receiving unit adapted to receive encoded data which will de decoded by the first or second decoding algorithms.

31.-40. (Canceled)